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AUTHOR Thomas, Terry A.
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ABSTRACT

A study investigated the long-term impact of acceleration on academically talented youth. Twenty-three females and 20 males completed questionnaires about the California State University at Sacramento (CSUS) Academic Talent Search Program they had attended 4 years previously as junior high students. Students reported on the experiences, academic achievements, and affective changes they attributed to their Academic Talent Search participation. Responses were analyzed using frequency distribution and cross tabulation tables. Students viewed academic acceleration through the program as highly positive. Participation was associated with positive changes in attitude toward academic subjects, school, and self. Social relationships and emotional stability showed favorable rather than unfavorable changes. The students were active in a wide variety of extracurricular activities, had positive self-concepts, viewed themselves as having control of their lives, and had formulated plans for the future, including career goals. (CL)

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CSUS Academic Talent Search Follow-Up Report: After the First Four Years

By
Terry A. Thomas, Ph.D.

Abstract

Academic acceleration is an effective approach in meeting the needs of highly able learners, yet this strategy is not favored by school practitioners. Many researchers have demonstrated superior academic achievement by talented learners as a result of acceleration, but there is little evidence of a consistent effect of acceleration on student non-cognitive development. In fact, many educators suspect acceleration as a cause of social and personal maladjustment. The present study was undertaken to investigate the long-term impact of acceleration on academically talented youth.

A group of academically talented junior high students participated in a summer program emphasizing academic acceleration. Four years later, a questionnaire was completed by the majority of these students. The students reported their experiences, academic achievements, and affective changes from Academic Talent Search participation. The responses were analyzed using frequency distribution and cross tabulation tables.

Academic acceleration through the CSUS Academic Talent Search Program was viewed by the former participants as highly positive. Participation was associated with positive changes in attitude toward academic subjects, school, and self. Social relationships and emotional stability showed favorable rather than unfavorable changes. The respondents were active in a wide variety of extra-curricular activities, had positive self-concepts, viewed themselves as being "in control" of their lives, and had formulated plans for the future, including career goals. These students did not show signs of maladjustment or other personal problems four years after participation in the CSUS Academic Talent Search.

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California State University, Sacramento
6000 J Street
Sacramento, CA 95819
(916) 278-7032

EC 200560

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CSUS ACADEMIC TALENT SEARCH

FOLLOW-UP REPORT: AFTER THE FIRST FOUR YEARS

By
TERRY A. THOMAS, Ph.D.
California State University, Sacramento

Introduction

Background

The Commission on Excellence in Education (1983) identified the gifted and talented as a "key group of students" for which the nation has a special responsibility. The Commission recommended that placement and grouping of students be guided by their academic progress and instructional needs rather than by rigid adherence to age. Academic acceleration continues to be the most effective approach in meeting the needs of highly able learners, yet this educational strategy has not been the favored way of dealing with such students in the schools. Schools have instead offered programs of enrichment for the most able learners. In addition to the Commission's findings, several other studies have demonstrated the superiority of gains of talented learners as a result of academic acceleration. Goldberg (1958) and later, Daurio (1979) reported that it was hard to find a single study which showed that acceleration was harmful, and many studies showed acceleration to be an effective method for challenging the most able students. Almost two decades ago, Gallagher (1969) asked, "(Why is acceleration) ...generally ignored in the face of such overwhelmingly favorable results?" (p. 451). These studies offer important data on cognitive learning which support acceleration as a productive and effective tool in the education of exceptionally bright students. Only a small number of studies, however, have investigated the non-cognitive outcomes of accelerated instruction. There is little evidence, "... of a consistent effect of acceleration on student attitudes toward school or school subjects; on participation in school activities; or on self-reported student adjustment" (Kulik and Kulik, 1984, p. 88). The California State University at Sacramento (CSUS) Academic Talent Search Program provided an opportunity to investigate the impact of academic acceleration on these non-cognitive areas.

The 1982 CSUS Talent Search Summer School enrolled seventh, eighth, and ninth graders in academically accelerated courses. Using the model developed by Dr. Julian Stanley (1977) of The Johns Hopkins University, students were selected to participate on the basis of Scholastic Aptitude Test (SAT) scores which indicated

high potential for academic achievement. One hundred two students participated in fast-paced mathematics, expository writing, and/or study skills classes during the summer of 1982. These students achieved exceptionally well that summer. In mathematics, students demonstrated a mean achievement level of well over a full year's growth in algebra and pre-calculus mathematics. The mean growth was 1.68 years. In order for students to achieve a full year, they had to score very high on the appropriate Cooperative Mathematics Achievement tests. Writing students similarly showed exceptional achievement on tests that were administered pre and post instruction. Using the Sequential Test of Educational Progress (STEP) in English Expression, students demonstrated progress that was significant at the .01 level of confidence. The Test of Standard Written English (TSWE) also indicated significant growth. The mean post-test score was 51 (on a scale of 20 to 60) and three of the students scored at the maximum level of 60+. The students in the 1982 group were clearly talented academically and demonstrated the motivation and the ability to achieve.

Since 1982, the Academic Talent Search has grown in both size and breath, accommodating 428 students in 19 different course offerings, in 1986. Classes have been provided in Mathematics, Writing, Foreign Languages, Computer Sciences, Communication Studies, Natural Sciences, and Study Skills.

Purpose

The purpose of this study was to investigate the long-term impact on the participants of academic acceleration, specifically the impact of the CSUS Academic Talent Search Summer School. Areas of research interest included student development in academic, social, and personal areas; the extent of academic acceleration experienced by these students; and how the student's school responded to the needs of the accelerated scholar. The students in the 1982 summer program were designated as a "trial group" to be used for purposes of refining the survey instruments and procedures. At each key data collection stage, a trial instrument could be developed and field-tested on this group. The major purpose of this report is to share the findings from the initial feasibility study or "field test" of the first data collection stage, four years after students had participated in the CSUS Academic Talent Search. In addition to this "trial group," three other cohorts have been identified as the classes of 1983, 1984, and 1985. Research is currently in progress for the Class of 1983 group, and in the planning stages for the later groups.

Procedures

A longitudinal follow-up study was planned to provide data at several key stages in the students' development. The first data collection took place four years after the subjects' initial participation in the summer school. Participants of the 1982 Academic Talent Summer School, who attended either the mathematics or

expository writing classes (N=93) were considered candidates for this preliminary study. The data collection focus at this stage was aimed at the students' secondary education and adolescent maturation experiences, as well as their attitudes and future plans. The addresses of candidates were maintained on a computerized database and were verified through a post card mailing during October, 1985. "Address Correction Requested" post cards were mailed to each member of the trial group. The post card announced that the survey questionnaire would be sent soon and that students should be ready to respond. Twelve students were eliminated from the list after their post cards were returned by the post office marked "undeliverable." Survey packets were sent to the remaining 81 students in February, 1986. Each packet contained a cover letter, a questionnaire, a response sheet, and a postage-paid return envelope. After two weeks, a second post card was sent to students who had not responded. The post card served as a reminder that the responses to the questionnaire were important to the project. After a second two-week waiting period, the research staff began calling those subjects who still had not responded. After eight weeks, a total of 44 usable response sheets were received and were included in the analysis. The return rate of 54% was lower than desired, but was considered large enough to give an indication of the views of the group as a whole.

ANALYSIS OF RESPONSES

Population

Sex, Grade, Age

The respondents were fairly equally divided between male and female. Twenty-three females (53.5%) and 20 males (46.5) returned usable questionnaires. As expected, the majority of the students were in their first year of college. Twelve had not yet completed high school, and two reported they were second-year college students.

TABLE 1
Grade-level of Respondents

Grade	Freq	Percentage
12	12	30%
13	26	65%
14	2	5%

Students were in the age range of 15 to 18 years of age. The majority of the students were 17 years old (born in 1963). These students had been in the seventh, eighth or ninth grade just prior to the 1982 summer school program.

Ethnicity

The ethnic background of the respondents agreed closely with the distribution of ethnicity of the 1982 cohort of students. The ethnic distribution was Caucasian (64%), Asian (24%), Black (7%), and other or unstated (7%).

Family Background

Family Size

Students were asked to report the number of their siblings as an indication of family size. Prior research has indicated that many gifted and talented students are from small families and are usually the first born. (Belmont and Marolla, 1973) The subjects of the present study, however, reported a different pattern. Most of these students were from families with more than one child.

TABLE 2
Number of Siblings

Siblings	Percent
Zero	4.7%
1	39.5%
2	25.6%
3	11.6%
4	9.3%
5 or more	9.3%

Birth Order

Are these students the first-born child of their families? Responses to the survey indicated that these students tended *not* to be the first born. Less than half of the students were the oldest, and nearly a third of them were second in birth order and 30% were third or later in birth order. One student reported being seventh in order of birth.

Schooling

Age on Entering First Grade

Did these students begin their formal education earlier than others or did they enter the first grade with their age mates? The questionnaire asked students to indicate their approximate age at the time they entered the first grade. Typically, students are admitted into the first grade in September after their sixth birthday. The survey group were similar to their agemates regarding entry into the first grade with 29 students (69%) reporting they were between 5.5 and 6.5 years. Five students were one year younger and six students were a year older than the norm. Two students reported that they were between 4 and 5 years old, two years younger than typical.

Type of School Attended

Do these highly able students attend public schools in their neighborhoods or do they seek alternative school opportunities? When students were asked what kind of high school they attended, responses showed that they went to regular high schools in the districts where they lived. Only a small percent (15%) of these students attended a "special" high school. Eighty-four percent attended the regular public high school in their district, with nine percent attending regular public schools out of their district. Only one student attended a private high school.

Graduation Date

Do these students take less than four years to complete high school? Respondents to this questionnaire tended to graduate "on time" with their high school peers. Only nine students (21%) graduated (or planned to graduate) one or more years early. It was interesting to note that one student quit school prior to graduation and another student intended to take the high school equivalancy test, rather than graduate.

Planned Highest Educational Level

Students indicated their intentions regarding higher education. Most of the students intended to complete graduate level education rather than stopping after a 4-year bachelor's degree.

TABLE 3
Highest Academic Degree (Planned)

Degree or Level	Percent
Assoc. of Arts (2-yr)	4.7%
Bachelors (4-year)	2.3%
Certificate (Post BA)	2.3%
Master's Degree	37.2%
Law (J.D.)	2.3%
Medical Doctor	16.3%
Ph.D.	34.9%

As shown on Table 3, half of the survey group intended to complete a doctorate in Philosophy or Medicine, and only 4.7% of the students indicated they were planning to leave school before completing a bachelor's degree.

Attitudes

Attitude Changes From Talent Search Participation

Students were asked to report changes in their attitudes toward mathematics influenced by the Academic Talent Search participation. Twenty students (46%) reported a favorable or strongly favorable change in attitude, 22 students (51%)

reported there was no change in attitudes toward mathematics, and only one student (a female) indicated her attitude had changed to less favorable.

Students' attitudes toward writing were also positively changed. Eighteen students (42%) reported favorable changes in attitudes. Seven females reported their attitude changes were strongly favorable! The majority of students (56%) reported no change. One female indiciated she had changed her attitude toward writing ton less favorable.

Students' attitudes toward learning showed positive changes. Over 65% reported favorable or strongly favorable changes in attitude toward learning. Thirty percent reported no change and only two students (5%) reported an unfavorable change.

Attitudes toward self were changed positively. Nineteen girls and thirteen boys (74%) reported that they experienced favorable or strongly favorable changes in their attitudes toward themselves. Ten students reported experiencing no change in attitudes toward self. One student (female) indicated an unfavorable change was experienced.

SCHOOL RESPONSE

Articulation with Schools

How did the local schools respond to these students following the summer school? Students in the Talent Search Program received a letter which described each course taken and the student's academic achievements. The letters also contained specific academic recommendations regarding appropriate placement and academic credits. When asked if the Academic Talent Search evaluation letter had been shared with the schools, 29 students (67%) reported yes, 12 students (28%) stated no, and two students reported they didn't know. Most of the students shared the information provided by the Talent Search project in an attempt to receive appropriate recognition.

Were school officials pleased with student achievement? If the school officials were pleased and proud of their students' achievements, those officials apparently didn't communicate their feelings clearly to the students. Students' reports were mixed. Fourteen students (33%) reported yes, ten students (23%) said no, and 19 students (44%) indicated they didn't know if the school officials were pleased or not.

Were school officials helpful? According to students, some school officials were helpful regarding the articulation of coursework after the summer school. Nineteen students (44%) reported that school officials were helpful in dealing with

articulation concerns, but over half (56%) reported that these officials were NOT helpful.

Did students receive credits and grades for their Talent Search coursework? Eighteen students (42%) reported they received credits and grades from their local school, however the majority of students (56%) reported that they did not receive such benefits.

Did students receive placement in advanced courses (with or without credit)? Advanced placement was obtained by about a third of these students. Fourteen students (33%) did receive advanced placement, 26 students (60%) reported they did not receive advance placement and three students (7%) indicated they didn't know if they had received advanced placement.

Did students receive an entry on their transcript regarding Academic Talent Search course achievement? Twelve students (28%) reported that they received this benefit; 27 students (63%) did not receive it, and four students (9%) were unaware if such an entry had been made.

Was it necessary for the parents to visit the school two or more times in order to receive appropriate recognition? Most of the students (79%) did not experience this. Five students (12%) experienced this "hassle." Four students (9%) didn't know or could not recall if their parents were needed to assist by visiting the school.

Were students required to repeat course material that was mastered during the Talent Search Summer School? Only five students (12%) reported this outcome, while 38 students (88%) indicated they were not required to repeat a course.

Did students have to take a challenge exam on the material covered in the Talent Search Program? Five students (12%) reported they faced the examination requirement but 38 students (88%) reported no examination requirement.

Some students were required to attend classes at a school different from their "home school" in order to achieve appropriate placement. Ten students (23%) indicated that they needed to travel to another school for their advanced placement, but the majority of students (77%) did not need to change schools.

Academic Acceleration

Academic acceleration for these students was accomplished by several approaches. Most students experienced advanced placement at high school and took College Board's Advanced Placement Program (AP) examinations to earn university credit for work done in high school.

TABLE 4
Acceleration Methods

Method	Yes	No
Advanced Placement	88%	12%
Early Graduation (H.S.)	7%	93%
College Credit Exams	67%	33%
College Courses	40%	60%
Early College Entrance	5%	95%
Independent Study	30%	67%

Grade Skipping

One approach to academic acceleration is "grade skipping," a practice viewed with suspicion by some educators. Do highly academically able students skip grades as they progress through the traditional 12 years of school? These students were asked to indicate which, if any, grades they skipped. Most of the respondents (72.1%) did not skip any grades. Seven students (16%) skipped a primary grade (K-3), zero students skipped a middle grade (4-6), one student (2%) skipped a junior high grade (7-9), three students (7%) skipped a senior high school grade (9-12), and one student (2%) reported skipping more than one grade. While grade skipping was one of the methods used for accelerating academically, the data indicated that the majority of these students had experienced their skip prior to involvement with the program rather than as a result of participation.

Impact of Acceleration

Grades

Students were asked to indicate the impact their academic acceleration had on their grades at school. Responses indicated that the impact on high school performance (grades) was quite positive. Twenty-one students (49%) indicated a favorable or strongly favorable effect. Seventeen students (40%) reported no change in GPA due to acceleration. Five students (12%) indicated their acceleration had an unfavorable effect on high school grades.

Interest in School

Was interest in school influenced by academic acceleration? Most of the students (68%) reported favorable or strongly favorable influence of acceleration on their interest in school. Twelve students (28%) indicated their interest in school was not changed. Three students (7%) reported losing interest in schooling as a result of academic acceleration.

How did academic acceleration affect students' interests in learning? Thirty students (70%) reported favorable or strongly favorable changes in their interests in learning as a direct result of their academic acceleration. Twelve students

reported no change, and one student indicated an unfavorable affect on her interest in learning.

Students thought their interests in various subject areas was enhanced as a result of acceleration opportunities. All female students (except one) reported favorable attitude changes in all subject categories. Apparently the female students perceived their academic acceleration experiences as having generally positive (favorable) consequences in their levels of interest in academic subjects.

Changes in Social Relationships

Did academic acceleration effect changes in students' social relationships? Generally the students perceived themselves as more socially adjusted as a result of their acceleration.

TABLE 5

Social Relationships (Changes)

Relationships	Favorable	No Change	Unfavorable
With Age Peers	35%	53%	12%
With Mental Peers	51%	44%	5%
With Adults	48%	44%	7%
Social Life (General)	35%	51%	14%
Acceptance of Self	50%	43%	7%
Emotional Stability	30%	57%	4%

Most respondents (51%) noted favorable chages in relationships with mental peers. Favorable changes were also evident in relationships with adults and acceptance of self. No change was noted by the majority in relations with age peers, social life in general and emotional stability. The frequencies of unfavorable change were minimal.

Attitudes About Acceleration

How do students feel about the acceleration methods they opted to use? One male student (2%) reported he wished he had opted for academic acceleration. Ten students (23%) reported they wish they had accelerated more, four students (9%) reported they wish they had *not* exercised the acceleration option, but the majority (65%) reported they were satisfied with their academic acceleration and its affects.

Extra-curricular Activities

School Related Activities

To what extent are highly academically able students actively involved in extra-curricular activities? Students were asked to indicate their level of participation in a variety of activities. These students were active with leadership positions in a wide variety of extra-curriclar activities. The activities most frequently reported

include Academic Clubs, Student Government, and Athletics. The least-frequent activities include ROTC, Scouting, and Booster Clubs.

TABLE 6
Participation in Extra-curricular Activities
(School Related)

Activity	Not Active	Somewhat Active	Active/ Leadership
Honor Society	55%	24%	21%
Academic Clubs	29%	21%	50%
Service Clubs	47%	19%	35%
Hobby Clubs	67%	9%	28%
Student Govt.	71%	0%	28%
Journalism	75%	9%	16%
Vocal Music	77%	2%	20%
Instrumental Music	63%	14%	23%
Fine Arts	81%	14%	4%
Performing Arts	74%	7%	20%
Stage Tech	86%	5%	11%
Athletics	50%	2%	48%
Boosters	86%	2%	11%
Community Actys	54%	21%	26%
Politics	75%	11%	14%
ROTC	100%	-	-
Scouting	96%	-	4%

Non-school Activities

In addition to participating in organized extra-curricular activities, these youngsters involved themselves in a variety of interests which were not school related. Among these many activities, it is interesting to note the high frequency of participation in reading, T.V. and movies, socializing, board games, and cooking. Low frequency activities include hunting, gardening, sewing, and crafts.

TABLE 7
Extra-curricular Activities
(Non-school Related)

Activity	Rarely	Ocassionally	Regularly
Reading	18%	27%	50%
Music	5%	2%	82%
Socializing	2%	5%	84%
Hunting	25%	5%	9%
Photography	32%	16%	5%
Individual Sports	21%	21%	43%
Spectator Sports	34%	30%	21%
Art	23%	21%	5%
Hiking	55%	21%	2%
Cooking	34%	25%	23%
Crafts	34%	5%	-
Board Games	36%	39%	14%

Team and individual sports were reported as occasional to regular activities. Individual sports were preferred above participation in team sports, both of which were above spectator sports in popularity.

Awards and Honors

Do these students compete and win awards in various talent areas? The responses of these students indicate they are "award winners."

TABLE 8
Awards and Honors

Award Area	None	School	Local	Regional/State/Nat'l
Speech	66%	11%	13%	9%
Fine Arts	71%	9%	18%	2%
Languages	71%	23%	2%	2%
Mathematics	66%	16%	11%	7%
Music	61%	14%	14%	11%
Performing Arts	86%	2%	11%	-
Science	71%	6%	9%	4%
Spelling	71%	21%	7%	-
Writing	64%	16%	14%	7%
Academic (Gen'l)	59%	21%	14%	6%
Sports	55%	21%	14%	11%
Other Awards	61%	11%	14%	14%

These students participated in a wide variety of "competitions" and won awards at almost every level. However, no single activity or award type stands out as a "winning area" for more than half of the students.

Self Concept

Perceptions of Self

Do these students have positive perceptions of self, or do they suffer from deflated self-concepts due to excessive self- criticism? Respondences to the survey describe a warm, imaginative, stable, independent, and outgoing perception of self.

TABLE 9
Self Perception

Characteristic	A	B	C	D	E	Characteristic
COLD	0	4.6%	26.2%	45.2%	23.8%	WARM
SHY	0	14.3%	40.5%	38.1%	7.1%	VENTURESOME
DEPENDENT	0	2.4%	23.8%	40.5%	33.3%	INDEPENDENT
SUBMISSIVE	4.8%	4.8%	42.9%	33.8%	14.3%	DOMINANT
CONSERVATIVE	23.4%	19.1%	31.0%	26.2%	21.4%	RADICAL
PRACTICAL	2.4%	16.7%	40.5%	16.7%	23.8%	IMAGINATIVE
STABLE	31.0%	52.4%	2.4%	14.3%	8.0%	UNSTABLE
INTROVERTED	0	16.7%	33.3%	40.5%	9.5%	EXTROVERTED

Self Control

Students were asked about the degree to which they felt "in control" of their lives as opposed to being controlled by factors outside of themselves. Table 10 shows that students were satisfied with their sense of self control.

TABLE 10
Self Control

Statement	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
I have a positive attitude toward myself	38.1%	42.9%	4.8%	9.5%	2.4%
Hard work is more important than luck for success	32.6%	30.2%	18.6%	11.6%	4.7%
I feel I am a person of worth and high potential.	46.5%	41.9%	7.0%	0%	0%
I can do things as well or better than most people.	32.6%	51.2%	14.0%	0%	0%
Every time I try to get ahead, something stops me.	0 %	11.6%	23.3%	41.9%	20.9%
Planning only makes a person unhappy, since plans seldom work out.	2.3%	4.7%	11.6%	37.2%	41.9%
People who accept their condition in life are happier than those who try to change things.	2.3%	7.0%	27.9%	30.2%	30.2%
On the whole, I am satisfiedwith myself.	23.3%	53.5%	7.0%	11.6%	0%
Generally, people who know me, like me for who I am.	32.6%	55.8%	7.0%	2.3%	0%

Generally, students felt that they were responsible for their success, that they were "in charge," and that they were satisfied with that condition.

Future Plans

Goals and Aspirations

Students gave indication of their goals by responding to statements on a three-point scale as shown on Table 11. Identifying one of the phrases as "very important" was a strong indicator of goal clarity. These students seemed to have clearly established goals.

TABLE 11
Goals

How important is each of the following to you in your life?

Goal Element	Not Important	Somewhat Important	Very Important
Being successful in my line of work.	2.3%	16.3%	79.1%
Finding the right person to marry and having a happy home life.	11.6%	25.6%	60.5%
Having strong friendships.	0%	9.3%	85.0%
Being a leader in my community.	46.5%	4.9%	14.0%
Gaining the respect and admiration of my peers.	14.0%	39.5%	41.9%
Living close to my parents and/or relatives	41.9%	39.5%	9.3%
Having the opportunity to travel, ...to see theworld.	9.3%	32.2%	55.8%
Working to correct social and economic inequities.	16.3%	53.5%	25.6%
Having leisure time to enjoy my own interests/hobbies.	2.3%	23.3%	69.8%
Having a good education.	0%	4.7%	90.7%
Earning lots of money.	16.3%	46.5%	32.6%
Having children, starting my own family.	20.9%	27.9%	44.2%

What do these young people value? Table 11 indicates they value success in work, having happy marriages (including having children), and strong friendship bonds. They seek travel and leisure time, a quality education, and the respect of their peers. Less important are having lots of money, correcting social inequities, being community leaders, and living near their parents.

Career Aspirations

These students were asked to indicate their levels of interest in a wide variety of career options. Their responses are summarized on Table 12. High interest careers included business, education, engineering, mathematics, and medicine. Being a college professor or a writer/author had high appeal for this group, also. Low interest career fields included

accounting, agriculture, construction, food industry, geology, heavy industry, meteorology, military, office work, real estate, religion, and sports.

TABLE 12
Career Aspirations

Career Option	High Interest	Some Interest	Neutral	Low Interest	Dis-Interest
Accountant	2.4%	11.9%	28.6%	26.2%	28.6%
Agriculture	2.3%	2.3%	16.3%	39.5%	32.6%
Architect	0	37.2%	30.2%	23.3%	4.7%
Astronomy	14.0%	30.2%	27.9%	14.0%	11.6%
Construction	2.3%	4.7%	20.9%	46.5%	23.3%
Business Admin	7.0%	46.5%	11.6%	16.3%	14.0%
Business (small)	4.7%	44.2%	20.9%	18.6%	4.7%
Computer Sci	7.0%	11.6%	48.8%	11.6%	18.6%
Economics	9.3%	32.6%	25.6%	16.3%	14.0%
Education	9.3%	37.2%	16.3%	25.6%	9.3%
Engineering	16.3%	27.9%	20.9%	18.6%	11.6%
Food Industry	2.3%	11.6%	25.6%	30.2%	27.9%
Government	9.3%	30.2%	25.5%	18.6%	14.0%
Homemaker	2.3%	16.3%	20.9%	16.3%	39.5%
Industry	2.3%	4.7%	25.6%	39.5%	25.6%
Internat'l Trade	4.7%	30.2%	41.9%	11.6%	7.0%
Inventor	7.0%	32.6%	23.3%	18.6%	11.6%
Law	7.0%	39.5%	18.6%	20.9%	11.6%
Mathematics	16.3%	32.6%	11.6%	16.3%	20.9%
Medicine	20.9%	27.9%	23.3%	18.6%	7.0%
Meteorology	0%	2.3%	32.6%	44.2%	18.6%
Military	2.3%	7.0%	16.3%	30.2%	39.5%
Music	14.0%	20.9%	25.6%	18.6%	16.3%
Nat'l Science	18.6%	20.9%	37.2%	11.6%	9.3%
Office Work	2.3%	2.3%	14.0%	39.5%	39.5%
Oceanography	4.7%	37.2%	20.9%	4.7%	2.3%
Photography	2.3%	20.9%	32.6%	39.5%	2.3%
Pilot	0%	30.2%	25.6%	23.3%	18.6%
Real Estate	2.3%	14.0%	23.3%	34.9%	23.3%
Religion	4.7%	4.7%	7.0%	37.2%	44.2%
Social Science	9.3%	23.3%	25.6%	18.6%	18.6%
Sports	2.3%	11.6%	20.9%	25.6%	37.2%
Theatre	14.0%	25.6%	27.9%	14.0%	16.3%
Univ. Prof.	20.9%	39.5%	14.0%	11.6%	11.6%
Perform Artist	4.7%	16.3%	18.6%	25.6%	32.6%
Writer/Author	27.9%	20.9%	34.9%	7.0%	7.0%

Conclusions and Recommendations

Summary

Students from the 1982 Academic Talent Search Summer School were mailed questionnaires in 1986 to investigate the impact of academic acceleration. From a mail-out of 81 questionnaires, 44 (54%) usable responses were received and analyzed. Frequency tables and percentages were used to describe the findings.

As a group these students were successful in their academic pursuits following the CSUS Academic Talent Search Summer School. They had high aspirations regarding college with the majority of students expecting to earn graduate degrees. In terms of non-academic successes, these students were active in high school extra-curricular activities, held leadership positions, won awards and honors, and had diverse outside interests. The career aspirations of this group were also described. Most of these students were pleased with their academic rate of progress and its impact on their achievement. Students reported positive interest changes toward school and school subjects following Talent Search participation. Academic acceleration was credited with effecting positive changes in interpersonal relationships and with attitudes toward self and others.

One conclusion was that the questionnaire was too long and "ominous" for many respondents. The questionnaire just seemed to be too big of a job for the students to do willingly. The survey questionnaire needed to be revised for use with subsequent student groups into a shorter and less time consuming response instrument.

The quasi-experimental design of this study provided data of a descriptive nature. In most cases norms were not available to use in comparison with the reports of these subjects. However, one consistent observation was that these students were typical rather than atypical in their non-cognitive activities. There was no pattern of negative outcomes to academic acceleration in terms of cognitive or non-cognitive factors four years after participation in the CSUS Academic Talent Search Summer School. Participants in the 1983 summer school have since been surveyed with a revised questionnaire, and those findings will be compared with the 1982 findings.

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CSUS ACADEMIC TALENT SEARCH
Follow-up Survey #1

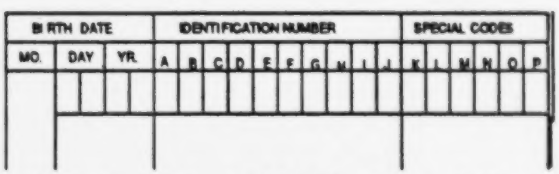
Directions: Begin the questionnaire in the upper left-hand part of the blue answer sheet. Fill in the boxes and darken the bubbles using a #2 pencil.

Name: Write in your name (Last, First, Middle Initial) in the boxes, then darken in a bubble for each letter in your name. (Confidentially will be maintained.)

Sex: Darken the appropriate bubble: M for Male or F for Female

Grade or Education Level: Darken the bubble for your current grade level. (Use "0" if you do not attend school.)

Directions: Answer the following questions on the lower left-hand section of the answer sheet. Use the illustration below to locate the correct columns on the blue answer sheet.



Birth Date: Fill in the Month, Day, and Year of your birth. Darken the bubble next to the month of your birth. In the boxes write the numerals representing the day and the last two digits of the year of your birth. Complete your response by darkening in a bubble under each box.

Identification Number: Use columns ABCDEFGHIJ to answer the following questions. Write in the number code of your answer, then darken in the bubble under that answer.

Column A: What is your Ethnic/Racial background? (Use the following codes.)

0 Decline to state
1 American Indian-Alaskan native
2 Chicano, Mexican-American
3 Other Hispanic
4 Asian
5 Pacific Islanders
6 White, non-Hispanic
7 Filipino
8 Other

Column B: What is your Religious Preference? (Use the following codes.)

0 None/ Decline to state
1 Buddhist
2 Catholic
3 Hindu
4 Jewish
5 Moslem
6 Protestant
7 Other

Column C: How many siblings do you have? (Write the number of your brothers and sisters. Mark 0 if you have no brothers or sisters.)

Column D: What is your "Order of Birth" in your family. (Example: If you were the first born, mark 1. If you were the second born mark 2, etc. Include step- or half-brothers/sisters if they live with you.)

Column E: How old were you when you entered the first grade?

0 Younger than 4 years
1 Between 4 years and 4 years, 6 months
2 Between 4 years, 6 months and 5 years
3 Between 5 years and 5 years, 6 months
4 Between 5 years, 6 months and 6 years
5 Between 6 years and 6 years, 6 months
6 Between 6 years, 6 months and 7 years
7 Between 7 years and 7 years, 6 months
8 Between 7 years, 6 months and 8 years
9 8 years or older

Column F: Did you skip any grades? (Mark one only!)

0 No, none
1 Yes, a primary grade (k-3)
2 Yes, an intermediate grade (4-6)
3 Yes, a jr. high grade (7-9)
4 Yes, a senior high grade (10-12)
5 Yes, more than one grade

Column G: What type of high school do (did) you attend?

0 Regular public school in the district of my residence.
1 Regular public school outside of my home district.
2 Special public "Magnet" school. (Basic, Academy, Arts Center...)
3 Special public "Alternative" school. (Continuation High, Adult School...)
4 Private, religious or church related school.
5 Private, non-church related school.
6 More than one of the types listed above.

Column H: Did (will) you graduate from high school?

0 No diploma or certificate. I (will) quit school.
1 No, I took (will take) a test to get out early.
3 Yes, one or more years behind my age-mates.
4 Yes, on time with my age-mates.
5 Yes, one or more years ahead of my age-mates

Column I: In grade 11, did you take the Preliminary-SAT (PSAT) examination? (National Merit Scholarship Qualifying Examination)

0 I did not take the PSAT examination.
1 I took the test, and received no special recognition.
2 I received a National Merit Letter of Commendation.
3 I was a National Merit Semi-finalist.
4 I was a National Merit Finalist.
5 I was awarded a National Merit Scholarship.
6 I was named a Presidential Scholar.

Column J: Mark the highest educational level you are planning to attain.

0 Less than a high school diploma.
1 High school diploma or equivalent
2 License or certificate not requiring college degree
3 A.A., two-year college degree.
4 Bachelor's degree or equivalent.
5 License or credential requiring college degree. (Teacher, CPA)
6 Master's degree or equivalent.
7 Law Degree.
8 Medical degree (Physician, Dentist, Veterinarian).
9 Ph.D. degree or equivalent.

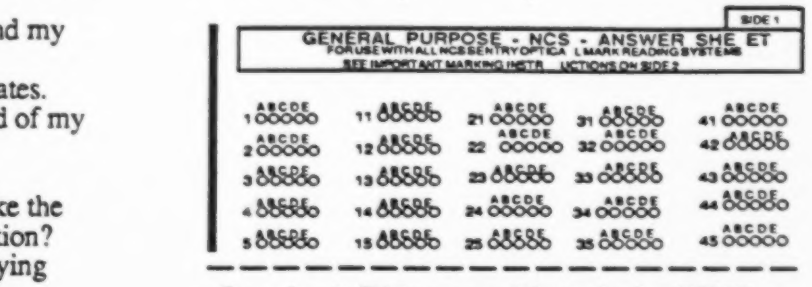
SPECIAL CODES

The Special Codes columns are located next to column J.

Columns KLM: Enter the three-digit value of your highest SAT-Verbal score. Write the three-digit number in boxes KLM and darken the bubble under each digit.

Columns NOP: Enter the three-digit value of your highest SAT-Mathematics score. Write the three-digit number in boxes NOP and darken the bubble under each digit.

The following questions should be answered in the numbered rows starting with number 1 at the top-middle of the blue answer sheet. (Use the illustration below to locate the correct row on the blue answer sheet.)


SIDE 1
GENERAL PURPOSE - NCS - ANSWER SHEET
FOR USE WITH ALL NCS SENTRY OPTICAL MARK READING SYSTEMS
SEE IMPORTANT MARKING INSTRUCTIONS ON SIDE 2

Question 1. Did you participate in the CSUS Talent Search Summer School?

A Yes, I attended one summer.
B Yes, I attended two summers.
C Yes, I attended three summers.
D Yes, I attended four summers.
E No, I did not attend CSUS Talent Search Summer School.

Questions 2 - 10. Did you take any of these classes in the Talent Search Summer School?

A = Yes B = No

2. Mathematics
3. Writing
4. Study Skills
5. Foreign Language
6. Biology (Ecology)
7. Debate
8. Computer Science
9. Public Speaking
10. Geology

Questions 11 - 17. Has participation in the CSUS Talent Search Program influenced any changes in your attitudes?

Large Favorable Change	Some Favorable Change	No Change	Some Unfavorable Change	Large Unfavorable Change
A	B	C	D	E

11. Toward mathematics
12. Toward science
13. Toward computer science
14. Toward writing (English)
15. Toward foreign language study
16. Toward learning (in general)
17. Toward myself and my abilities

Questions 18 - 30. After participating in the CSUS Talent Search Summer School, when you returned to your regular school, did you experience any of the following?

A = Yes B = No C = I don't know

18. I shared my summer achievement report with officials at my school.
19. My school officials were pleased that I had shown high achievement.
20 My school officials were very helpful to me in arranging advanced placement, credits and/or grades.
21. I was granted the placement, credit, and/or grade that I requested without any major difficulties.
22. I was granted advanced placement with no credits or grades for the work I did out-of school.
23. My advanced coursework was entered onto my school record, but no advanced placement, credit, or grade was allowed.
24. I was required to repeat an entire course.
25. I was required to repeat part of a course.
26. I was required to take an exam at school to show that I knew the material covered at CSUS.
27. My parents needed to visit the school three or more times to achieve the goals (advanced placement, credit, and/or grade)
28. It took a month or more to place me in an advanced class after school started.
29. I needed to travel to another school in order to take an appropriate class.
30. I did not ask my school officials to give me any out-of-the-ordinary placement, credit, or grade.

Questions 31 - 37. Which of the following ways have been used so far to accelerate (speed up) your educational progress?

A = Yes B = No

31. Advanced subject matter placement (ahead of age-mates) at school
32. Talent Search or other summer study opportunities
33. Early graduation from high school without grade skipping
34. AP or other exams for college credit
35. College courses while in high school
36. Early entrance to college, full time
37. Private lessons, correspondence courses, independent study

Questions 38 - 50. How has educational acceleration affected you in each of the following areas?

Strongly Favorable	Moderately Favorable	No Affect	Moderately Unfavorable	Strongly Unfavorable
A	B	C	D	E

38. Grades, grade point average (GPA)
39. Interest in school, formal education
40. Interest in learning (outside school)
41. Interest in mathematics
42. Interest in science / computers
43. Interest in writing (English)
44. Interest in foreign languages
45. Ability to get along with age-mates
46. Ability to get along with mental peers
47. Ability to get along with adults
48. Social life in general
49. General emotional stability
50. Acceptance of self

Question 51. Which of the following best describes your feeling now about your acceleration or non-acceleration?

A I wish I had accelerated.
B I wish I had accelerated more.
C I wish I had not accelerated as much.
D None of these, I am satisfied with what I did.

Questions 52 - 68. Of the following extra-curricular activities, indicate your level of involvement (participation) while in high school.

A = None
B = Joined, but not active
C = Occasionally active: monthly or less
D = Regularly active: weekly or daily basis
E = Held Officer or leadership position

52. Honor Society
53. Club: Academic
54. Club: Service or social
55. Club: Hobby (computer group/chess club)
56. Student Government
57. Journalism
58. Music, Vocal (chorus, choir)
59. Music, Instrumental (band, orchestra)
60. Fine Arts (painting/sculpture)
61. Performing Arts (drama/dance)
62. Technical Service (stage crew, costumes..)
63. Athletics: team member, participant
64. Booster: cheerleader, score keeper
65. Community organization
66. Political organization
67. ROTC (or other military related group)
68. Scouting

Questions 69 - 80. Have you won awards or honors in any of the following areas?

No	Yes: School Level	Local Level	State/Regional Level	National Level
A	B	C	D	E

69. Debate/Speech
70. Fine arts
71. Foreign Language
72. Mathematics
73. Music
74. Performing Arts
75. Science
76. Spelling
77. Writing (including essay contests)
78. General Academic (i.e., Academic Decathalon / Future Problem Solving...)
79. Sports (any kind)
80. Other

Questions 81 - 100. How involved are you in any of the following leisure-time activities?

None/ never	Rarely: not active	Occasionally: monthly basis or less	Regularly: weekly or daily basis
A	B	C	D

81. Reading (for pleasure)
82. Movies/T.V. (Watching)
83. Music (Playing/listening)
84. Collecting (stamps/coins/rocks...)
85. Socializing (talking with friends, telephone.)
86. Computer/video games
87. Hunting/fishing (in season)
88. Boating/sailing/water skiing
89. Photography
90. Team sports
91. Individual sports (tennis/golf/running)
92. Spectator sports (watching live events)
93. Art (painting/ceramics...)
94 Hiking/camping
95. Gardening/landscape
96. Cooking
97. Sewing/weaving
98. Model building or other crafts
99. Church Activities
100. Board Games (D & D/Chess/Monopoly...)

(Continue on side 2 of the blue answer sheet.)

Questions 101 - 109. How would you rate yourself on the following scales? In all cases, "C" is the midway point between the two poles.

101. Cold, Socially withdrawn.	A	B	C	D	E	Warm-hearted, Socially "with it."
102. Restrained, inhibited, serious.	A	B	C	D	E	Wild, free, uninhibited "a kidder."
103. Shy, reserved.	A	B	C	D	E	Venturesome, a risk taker.
104. Group-dependent, dependent on others.	A	B	C	D	E	Self-sufficient, an independent thinker.
105. Submissive, non-assertive.	A	B	C	D	E	Dominant, assertive.
106. Conservative, conventional.	A	B	C	D	E	Radical, willing to experiment.
107. Practical.	A	B	C	D	E	Imaginative.
108. Emotionally stable.	A	B	C	D	E	Emotionally unstable.
109. Introverted.	A	B	C	D	E	Extroverted.

Questions 110 - 118. How do you feel about each of the following statements? Use the scale below to indicate the strength of your feelings.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
A	B	C	D	E

110. I have a positive attitude toward myself.
111. Hard work is more important than good luck for success.
112. I feel I am a person of worth and high potential.
113. I am able to do things as well or better than most people.
114. Every time I try to get ahead, something or someone stops me.
115. Planning only makes a person unhappy, since plans seldom ever work out.
116. People who accept their condition in life are happier than those who try to change things.
117. On the whole, I am satisfied with myself.
118. Generally, people who know me, like me for who I am.

Questions 119 - 130. How important is each of the following to you in your life? Use the scale below:

Not important	Somewhat important	Very important
A	B	C

119. Being successful in my line of work.
120. Finding the right person to marry and having a happy home life.
121. Having strong friendships.
122. Being a leader in my community.
123. Gaining the respect and admiration of my peers.
124. Living close to my parents and/or relatives.
125. Having the opportunity to travel, to see the world.
126. Working to correct social and economic inequities.
127. Having leisure time to enjoy my own interests/hobbies.
128. Having a good education.
129. Earning lots of money.
130. Having children, starting my own family.

Questions 131 - 168. Listed below are some major career fields (with specific examples). What is your interest in each of the following fields as a career for you?

A= High degree of interest,"That's for me!"
B=Some interest, "Maybe"
C=Little or no interest, "Ho-hum"
D=Somewhat negative, "Rather not"
E=Strongly negative, "Never!"

131. Accounting (Bookkeeper, CPA, Auditor)
132. Agriculture (Grower, Distributor)
133. Architect, Designer, City Planner
134. Astronomy, Aerospace Science
135. Builder (Construction, Contractor)
136. Business, Large (Administration, Management)
137. Business, Small (Owner, Operator, Self Employed)
138. Computer Science
139. Economics (Banking, Stockbroker, Analyst)
140. Education (Elementary/Secondary Teacher/Administrator)
141. Engineer (Electrical, Civil, Chemical, Mechanical)
142. Food Industry (Dietition, Chef, Home Economist)
143. Geologist (Mining, Petroleum)
144. Government (State or Federal Government)
145. Homemaker (housewife/husband)
146. Industry (Manufacturing)
147. International Trade (Commerce, Import-Export)
148. Inventor
149. Law (Lawyer, Judge)
150. Mathematics
151. Medicine (Doctor, Dentist, Nurse, Veterinarian)
152. Meteorology (Weather Forcaster)
153. Military (Armed Services)
154. Music (Performer, Composer, Producer)
155. Natural Science (Physist, Chemist, Biologist...)
156. Office Worker (Secretary, receptionist, administrative assistant...)
157. Oceanography (Ocean Sciences)
158. Psychology (Clinical Psychologist, Counselor)
159. Photography
160. Pilot (Air Line)
161. Real Estate (Broker, Developer)
162. Religion (Minister, Priest, Rabbi)
163. Social Science (Historian, Sociologist, Anthropologist)
164. Sport (Professional Athlete, Coach, Promoter, Agent)
165. Theatre/TV/Movies (Actor, Director, Producer)
166. University Professor (any field)
167. Visual and Performing Arts (Painter, Sculptor, Dancer)
168. Writer, Author, Journalist

Questions 169-170. Please write your answers to the last two questions on the back of this page.

CSUS, Academic Talent Search Follow-up Survey #1

A major intent of this survey is to learn more about the impact of your participation in the CSUS Talent Search Summer School.

169. Has your participation in the CSUS Academic Talent Search been important to you in any of these ways? Please explain.

A. Academic goals and achievement.

B Career or college aspirations.

C. Personally , socially, or other ways.

170. Do you have any comments about this questionnaire?

Thank you for your support and cooperation. Your responses will be helpful to our important research project.

Please mail this page and the completed answer sheet to:

CSUS Academic Talent Search
School of Education
6000 J Street
Sacramento, CA 95819-2694